

NEW SYRPHID FLIES FROM NORTH AND SOUTH AMERICA.

By F. M. HULL, University of Mississippi.

This paper describes several new forms of Syrphid flies that have been noticed in studies of material from North and South America.

Volucella lacticoerulea n. sp.

Face, front and antennae orange-brown. The face deeply concave above the tubercle and yellow pubescent. Mesonotum and abdomen shining bluish or greenish-black, with a coppery or purplish reflection in some lights; wings with a quadrate, brown spot. Legs black, black pilose. Related to *bassleri* Curran.

Male: Length 11 mm. *Head*: Face, front and cheeks and antennae light orange-brown, the vertex shining black with a few black hairs. The front and the very prominent facial tubercle black pilose on top with a few black hairs near the eye margins laterally upon the face and upon or lying near the quite short, anterior portion of the flattened crease. The antenna is elongate, with a very large basal pore, the third joint about three times as long as its middle width but considerably wider basally; arista yellow, dark brown apically, with thirty rays above. *Thorax*: Shining violaceous-black, in places bluish or greenish, with very thick, erect, delicate, black pile. The pleura are black and black pilose, the notapleura with four stout bristles; there are three bristles above the margin of the wing, five on the post calli and six to seven pairs of still longer ones upon the margin of the scutellum. There is a row of eight to ten stout bristles in front of the scutellum. Scutellum dark reddish-chestnut with sparse, slender, black pile on the disc. *Abdomen*: Wider than thorax, round or circular, moderately convex, and wholly shining bluish-black with in places a violaceous light and elsewhere brassy or greenish. The pile is almost entirely flat-appressed, thick-bristly and black, except that there is considerable short, white pile, appressed and directed outwardly on the basal portion of the second segment and this patch of white pile is more or less divided medially with rounded, medio-posterior margin. *Legs*: Black with black pile. *Wings*: Hyaline, with a large, dark brown quadrate spot in the middle anteriorly, the marginal cell closed, the stigmal cell yellowish basally and the coastal cell pale brown.

Female: Similar, without the lateral black hairs on the face; the front is also orange-brown, the narrow, elongate, subocular crease on the upper part of the front is dark brown and the pile of the front is sparse and black and erect.

Holotype male and allotype female, Praia Grande do Rio Feio Perapolis, São Paulo, Brazil.

***Volucella hyalinipennis* n. sp.**

Face, front and antennae orange-brown; thorax, scutellum and abdomen blue-black with a reddish cast to the mesonotum and scutellum. Base of stigmal cell pale yellow; remainder of wing hyaline. Related to *chaetophora* Williston.

Male: Length 12 mm. *Head*: Vertex black, the front dark orange-brown, the face and cheeks light orange-brown with abundant short, black pile which is especially thick upon the rather prominent tubercle; the pile of the front is quite long and very thick, but absent upon the callus above the antennae. From in front the pile appears to form into two, wide, converging patches. The antennae are pale orange, the third joint rather long and quite narrow upon the apical half. The arista is brown, with thirty-six black rays above. The pile of the eyes is exceedingly dense, long and dark brown. *Thorax*: Mesonotum and scutellum shining greenish-black with a violaceous tinge throughout; its pile is long, delicate, very thick and black and similarly colored upon the black pleura. Squamae pale yellow with light brown border and concolorous fringe; there is a single, heavy, black bristle upon the upper part of the mesopleura, three smaller ones on the notopleura, three above the base of the wing, four very long heavy ones on the post calli, six or seven short ones in front of the scutellum and five pairs of heavy long bristles upon the scutellar margin; the pile on the disc of scutellum sparse and short. *Abdomen*: Everywhere shining purplish-black with dense, short, appressed, black pile and quite long black pile on the fourth segment, except that the second, third and fourth segments have each on their basal margin a more or less interrupted patch of appressed, silvery pile. *Legs*: Very dark brown, almost black, and with black pile. *Wings*: Hyaline, the costal cell wider than usual, the spines at the base of the costa unusually long and black; the base of the stigmal cell is pale yellow for a short distance, the marginal cell closed and petiolate.

Holotype: a male. Brazil.

Xylota primavera n. sp.

Related to *baton* Walker and *metallica* Wiedemann. Distinguished by the obtuse tubercle on male hind trochanters; base of hind femora quite narrowly yellowish; anterior four femora chiefly black.

Male: Length 9 mm. *Head*: Vertex shining black with black pile and pale yellow pile behind on the occiput. The front is shining black, bare except on the lower portion of the sides and with a few golden hairs along the sides and upper part of the front. The face is black with silvery pubescence. The antennae are brown upon the first two segments, light reddish upon the ventral basal two-thirds, the remainder black; the arista is light reddish on the basal half, apically black. *Thorax*: Mesonotum brassy, metallic black with thick, erect, yellowish pile, with whiter pile on the mesopleura and golden pile longer and tufted upon the upper posterior border of the mesopleura. There is a little patch of black spinules above the base of the wing but the post calli pile is entirely golden. Scutellum metallic, slightly greenish-black, with impressed rim and long, pale, golden pile and fringe. *Abdomen*: With parallel sides, first segment shining black, the second one faintly shining, brownish-black with on either side a large, almost quadrate, moderately separated, brownish-yellow spot; its antero-medial corners are more rounded and it approaches the base of the segment antero-laterally. The pile of the first segment is golden and long; it is erect and golden on the yellow portion of the second segment, black upon the black areas. Third segment with almost equally large, similarly colored, quadrate spots, their base resting on the base of the segment. All of these spots appear to reach the lateral margin, but as the lateral margin is very slightly curled over it is found to be brown laterally though quite narrowly. The spots of the third segment appear to be a trifle longer than wide, but due to the curl over are actually almost quadrate. Fifth segment metallic, shining, brownish-black with a few appressed black hairs in the middle basally and erect, rather long, golden hair on the posterior half of the sides. *Legs*: Hind femora quite narrowly, diffusely, yellowish-brown at its base, considerably thickened throughout the middle with pale yellow pile except dorsoapically and laterally, and with numerous, black, short, spinules ventrally, a few of which reach almost to the base. On the inner, apical, ventral portion of the femora there are four, quite

long, sharp, black spines and four others opposite them on the outer side. The ventral margin of the femora is pinched into an arcuate ridge similar to *Planes* and it is along this ridge that most of the short spinules lie. Hind tibiae arcuate, blackish, and dark brown in the middle and pale yellow on the basal fourth, the pile is black on the dark areas, their tarsi dark brown; the last two joints are black dorsally. The metasternum is long, white pilose, and the coxae similarly pilose; the brown trochanters have a short but well-developed spur which is considerably longer than in *metallica* Wied. and with white pile. Middle and anterior femora brownish-black, the base and apex narrowly yellow, their pile whitish, their tibiae light brownish-yellow with a darker tinge in the middle, their tarsi yellowish on the first three joints, the others black. *Wings*: Nearly hyaline; stigmal cell dilute brownish-yellow; there is a small, brownish cloud on either side of the small crossvein.

Female: Similar to the male, the coxal spur absent, the hind femora perhaps slightly less thickened, the pile of the mesonotum more whitish, the ground color metallic whitish with four, very faint, coppery vittae; the front is wide with an obscure, whitish pubescent spot on each eye margin in the middle, the two more or less connected. The pile of the upper half of front and across the ocelli black but behind the ocelli yellowish. The third joint of the antennae is light orange-red and dark brown above. *Abdomen*: Broader, not parallel-sided, with a pair of rather small, subquadrate, orange-brown spots in the middle of each half of the segment and a little nearer the base and a similar pair of equally large spots similarly placed upon the third segment. Remainder of abdomen shining blackish, the fourth segment quite broad and with appressed white pile from base to apex and over whole posterior margin leaving the anteromedial portion flat and blackened and the anterior corners erect and white. Coloration of the legs very similar to that of the male.

Holotype: male. Oxford, Mississippi, March 29, 1943, on plum (F. M. Hull, collector). Allotype: female, taken at the same time.

I place here also two females, collected at the same time, which resemble *primavera* in many respects but in which the red spots are almost entirely obsolete upon the abdomen and are completely absent and melanic upon the third segment. The antennae more nearly resemble the male than does the allotype. However, these females all have, as does the male, a slight brownish cloud on either side of

the small crossvein. Also the dark brown area in the middle of the front fore tibiae is more extensive and darker.

***Brachypalpus trifasciata* n. sp.**

Characterized by the three pairs of bluish, brassy, subrectangular spots upon the abdomen, the brassy, black-vittate mesonotum and the brownish femora. Related to *pigra* Lovett.

Female: Length 11.5 mm. *Head*: Occiput and vertex shining, metallic black, with a slightly brassy appearance opposite the ocelli and thinly dusted with whitish-grey pollen; the front is wide, flat, brassy across the middle but is widely greyish or yellowish-white pubescent upon the upper portion and again in front of the antennae; the transverse, brassy area across the middle of the front is narrowly divided by an upward extension from the pubescent area in front of the antennae. The face and cheeks are brown, the former shining on the posterior portion, but widely and broadly yellowish-white pubescent over the entire middle of the face. This pubescent area extends diagonally up to the eye margin and the face opposite the antennae is left bare. The first two joints of the antennae are brownish-yellow, the third joint is light brown, becoming greyish above. The thickened arista is pale yellow, darker near the tip. The pile of the face, front and vertex is pale yellowish-white. *Thorax*: Brassy black, the ground color almost wholly obscured by pale, yellowish-white pubescence which allows the brassy lustre to show through. There is a pair of black, submedial vittae not far apart, and sublaterally upon either side there is a second pair of vittae which are interrupted at the suture and the anterior section in front of the suture is very much widened. The humeri are concolorous with the sides of the mesonotum. The pleura are dark brown, shining, slightly metallic and thinly whitish pollinose. The scutellum is bright brassy; all of the pile of the thorax is whitish and rather long and especially long upon the scutellum. *Abdomen*: First segment brown, pale grey pollinose, the remainder of abdomen black with a slight bluish reflection and upon the second, third, and fourth segments there are large, basal rectangles that are grey pollinose. The rectangles upon the second segment are separated by a medial extension of black from the wide posterior fascia, and this extension is not quite as wide as the posterior fascia. Upon the third and fourth segments the spots are more narrowly

separated and their postero-medial corners less rectangular. The pile of the abdomen beyond the middle of the second segment is chiefly appressed and is blackish upon the black areas. The pile is pale yellowish along the lateral margins upon the rectangles and over much of the black posterior fascia upon the fourth segment. There is a fringe of very long, yellowish pile upon the apex of the fourth segment. The fifth segment is pale brown and pale yellow pilose. *Legs*: Pale brown, all of the pile pale yellow; the hind femora has six or seven, short, black setae ventrally and distally upon both sides. The bases and apices of all of the tibiae and first three tarsal joints of all the tarsi are yellowish. *Wings*: Almost hyaline but slightly brownish; there is a trace of brown clouds margining the small crossvein and the middle crossvein and the base of second and third veins.

Holotype: one female. Near Mount Rainier, Washington, July, 1926 (F. M. Hull).